

CLEAN COPY

1 AGCTTTATAA CCATGTGATC CCATCTTATG GTTCAATCC ATGCACAGGA
51 GGAAAATTGT GGGCACGAAG TTTCCAAAGG GAAAATTTAT AGATTGGTAG
101 TTAATGAAAT ACAGTTTTCC TCCTTGGCAA ATTTAATTTA CTAGCTTCAC
151 TGTATAGGAA AAAGCAGGAA AAAAATTAAA ACCAACTCAC CTCCAAACCT
201 GTTTTGAGCT TTTACTTGTC TGCCCAATTG ATAGTTTCTA CTCTCTGCTT
251 TTGATGAAAA TATTTTTTAT TATTTTAATG TAACTTCTGA AAATAAATT
301 ATCTAGAAGC AAATAAAAAG ATATTGCTTT TATAGTTCCC AGAAGGAAAA
351 AACAAACACT AGGAAAGTTC TATCTATCAG ATGGGGGAGA TGTGATGGAG
401 GCAGTGATAT TTGAGCTGAG CCTTGAACAA TGAACAGGAG TCTACCAAGC
451 GAGAGGCTAG CGGGTGGCCC TCAAGATAAA ACAACAGCAT GTACAAAGGC
501 ATGGAGACAT ACACATCTTG ACTCTTCCAG GAATGGTGGG AACGCTGGTG
551 GAGCTAGAAT GTAGGTACAT AGCATAAAGT GGCAGACGGG AAGCCTTTGG
601 AAATCTTATT ACATAGGACC CTGGATGCCA TTCCAATGAC TTTGAATTTT
651 CTGTAGGCTG CCAGCGAAAT TTCCAAGCGT GATAGAGTCA TGTCTATCTA
701 TGCACTTCAG AAAGACAACC TCAGGGTTAA TGAAGAAAAT GCATTGGAAT
751 ATAAGAAACT GGTGACCAGA GTGATCAATT GCATGACTGT TGTGAAAGTC
801 CAGGTGAGGG GAGCTGTGGG CAAGGTCAGA GTTGAGAGGC ATTCAGAGA
851 TAAAATGACA GTAACATAAGT AGATGTCAGG CTGAGAAGAA AGGGCTGTAC
901 CAGATATATG GTGCTATCAT TAAGTGAGCT CAACATTGCA GAAAAGGGGT
951 AGGTTTGGTG GGAGTTGCTC ACAAACATG TTTAGTCTAA GCAAACCAT
1001 TGCCATGGGC TCAGATAAAA GTTAAGAAGT GGAAACCATT CCTACATTCC
1051 TATAGGAGCT GCTATCTGGA AGGCCTAGTA TACACGTGGC TTTTCAGCTG
1101 TGATTTTGTT TGATTTTAGG GATTATTCTT TTTCTGAATC TGAGCAATGT

FIG. 1

1151 TAGCGTGTA AATACTCACA CCCACAGCTT TGA CTGGGTG AGAAGTTATC
 1201 ATAAATCATA TTGAGTTTGT TGTGATACCT TCAGCTTCAA CAAGTGATGA
 1251 GTCAGGTCAA CTCCATGTGA AAGTTCCTTG CTAAGCATGC AGATATTCTG
 1301 AAAGGTTTCC TGGTACACTG GCTCATGGCA CAGATAGGAG AAATTGAGGA
 1351 AGGTAAGTCT TTGACCCAC CTGATAACAC CTAGTTTGAG TCAACCTGGT
 1401 TAAGTACAAA TATGAGAAGG CTTCTCATTC AGGTCCATGC TTGCCTACTC
 1451 CTCTGTCCAC TGCTTTCGTG AAGACAAGAT GAAGTTCACA GTGAGTAGAT
 1501 TTTTCCTTTT GAATTACCA CCAAATGATT GGAGACTGTC AATATTCTGA
 1551 GATTTAGGAG GTTTGCTTCT TATGGCCCCA TCATGGAAAG TTTGTTTTAA
 1601 AAAAATTCTC TCTTCAAACA CATGGACACA GAGAGGGGAA CAACACACAC
 1651 CAGGTCTGT TGGGGGGTGG AGAGTGAGGG GAGGGAACCT AGAGGACAGG
 1701 TCAATAGGGG CAGCAAACCA CCATGGCACA CATATACCTA TGTAACAAAC
 1751 CTGCACGTC TGACATGTA TCCCTTTTTT TTAGAAGAAG AAATAATGAA
 1801 AAAAAACCTT TTTTCTATTT ATATAATCAT GGCATTTATA AGCATCTCTA
 1851 TAGAGAAGGA TAATTGTGCT GAGATTAGAC AGCTGTCTGA GCACCTCACA
 1901 CTGACCTATT TTTAACAAAA TGACTTTCCA CATCACCTGA TTTCGGCTCC
 1951 ATGCRGGGTA AGCAGTTCCT AAGCCCTAGA AAGTGCCGAT CATCCCTCAT
 2001 TCTTGAATTC CTCCTTTTAT TTACCAAAT TCCTGAGCAT GTTCAGGAAA
 2051 GATGAAAAGC TTATTATCAA AATAAGTGGC TGAGATAGAC TTCTGTGAC
 2101 ATTTGTTACA GTAAAATGGG TCTCCAAGAA AGAAAGATT GCCTTGGGCT
 2151 CTAGCATGGC CATTTATTTA AGAAAGCATC TGAAACATGA AGCTACCACA
 2201 GCATCTCTCC TGTGGTTCCA GACGGAAGCC TGAGAGTCTA GGAGGAGGTG
 2251 GACCGAGAAA CCCTGCCAAA GTAAC TAGTA GTGCCGGGTT TCTCACAACA
 2301 CGATGCAAAG GGGCTAGAAT CAGATGACTA TTTTCATGTT TCAACATACT

FIG. 1 Cont.

2351 ACACACTGGA AAACGTTACG GCAGACTCTA CTTTATAATG GGGCTGCAAA
 2401 TGTAATGA CTACTAGAAC TAGGTCCTCT TAATAGCAGC AAAGTTTAAA
 2451 AGGGTCAGAG GGAGCTCCAG ACACAGGTTA GATTTGATTT CTCTCCTACT
 2501 TCTGCTGTGA ACAAGAGGTA TAAGTTTGGC CAACTEACTT AACCCCTGAA
 2551 GCTCAGTTAC CTTATCTGTA AAATGATTGC ATTGTACTAG GTGTTCTCTA
 2601 AAATTTCTTC TACCTCTGAC TTTTATAGGAG ACTAATTTTT AACTCCTTTT
 2651 TAAGCTATTG GGAGAAAAAT TTAATTTTTT TTCAAAGTT ACCTTGAATC
 2701 TCTAGAGCAG TTCTCAAAC TATTTTGTCC CAGGCAAAGG AAATGAGACT
 2751 AGGTACCCAG AATGAGGCAC CCTGCATAAA GCTCTGTGCT CTGAAAACCA
 2801 ATGTCAGGGA CCCTGTGATA AATAATTAAA CCAAGTATCC TGGGACACTG
 2851 CTAGTGACAT CGCCTCTGCT GATCACTCTT GCCAGCGAGA CACTCTATAC
 2901 TTGCTTTCTC ATCATTGGCA TCCAACTGC CTAATAATCC ATTGCTTTGG
 2951 AAAGTTTTTT TTAATAAAAA GATTATTTCT ATTAGGAGGA AAACATCCCA
 3001 TGTTAAATAG GAAAATTAAC TGAAATCATT TTCAGATGTG ATTTTATGCA
 3051 CTTATAGCCA TTCAAACCA TGGTATTCAT TTATACTATG CTATTTATTG
 3101 TAAACTTCT TTTTTTTTCC AAGGAAAATA AGATAGTTTG CTTTATTTTA
 3151 AACAGTAAC TTTCTTATAT TGGGGCACTG ACCAAAATTC AATACTGGTA
 3201 CAAATATGTT ACCTAGGGGG TCAAAATATG TGCCAGGTGA ATTTCTGAA
 3251 TTTCTCTAAA GAGAGAATTT TAAACCTTAT AAAACAATTA GAAACAAGTG
 3301 AGTGAGAGGT GAGCATCAAC AACCTGTGTA ACATAAGCCA CAGTACAAAT
 3351 TTAAGCTGAA TAACCAAGCC ATGTCAGTTA TCCCAAATCA TTTTGTGTTAA
 3401 TATTTAGGAG GATACACATA TTTCAATAA CTAAAAGTG AATCTTTACT
 3451 CCTATCTCTT AATACTCGAA GAAGTATAAC TTTCTTCTT TACTAGATTT
 3501 AAATAATCCA AATATCTACT CAAGGTAGGA TGCTGTCATT AACTATAGCT

FIG. 1 Cont.

3551 GAGTTTATCC AAAATAGAAA AATCATGAAG ATTTATAAAG CATTTTAAAA
 3601 ATAATCATTT ATAGCAAGTC CTGAAAGCT CTAAATAAGA AAGGCAGTTC
 3651 TCTACTTTCT AATAACACCT ATGGTTTATA TTACATAATA TAATTCAACA
 3701 AAACAGCATT CTGACCAATG ATAATTTATA GGAAATTCAT TGCCAAGTA
 3751 TATGTTTTAT TATAAAGTTA ATATTTTGAC CAATCTTAAA AATTTTAAAA
 3801 CTCTATTCTG ACATTTCCAG AAGTATTATC TTAGCAAGTC ATCTTTATGA
 3851 TACCACTTAT TAAACTGAAG AGAAACAAGA TGGTACATTC TGGGTTTTAC
 3901 TTTAAAAGGG ATTTGATTCA ATAATTTGAT TTATCACTAC TTGAAAATTA
 3951 CATTTTCTTC CTCAGACTGG ATGGCAATGA GATGAAAGCA GCTTTCCTGG
 4001 CTCTCAACTT CCCTTCTTCA TCAATTTTTT CAGCGTTTCA TAAGGCCTAC
 4051 ACTAAAAATT CTAAACTAT ATATCACATT AATATAATTA CTTATAATTA
 4101 ATCAGCAATT TCACATTATC GTTAAACCT TTATGGTTAA AAAATGCAAG
 4151 GTAAGAGAAG AAAAAACAC ATTGAACTAG AACTGAACAC ATTGGTAAAA
 4201 TTAGTGAATA CTTTTCATAA GCTTGGATAG AGGAAGAAAG AAGACATCAT
 4251 TTTGCCATGT AACAGGAGAC CAATGTTATT TGTGATTCA GATTGTCTTT
 4301 GCTGGACTTC TTGGAGTCTT TCTAGCTCCT GCCCTAGCTA ACTATGTAAG
 4351 TCTCACCTTT TCAAGTTTGC TACCAAATG CATTTGCAAG GAAATGTGAT
 4401 ATTAAATCAC TCTCAATCTC TTATAAACTT CAGAATATCA ACGTCAATGA
 4451 TGACAACAAC AATGCTGGAA GTGGGCAGCA GTCAGTGAGT GTCAACAATG
 4501 AACACAATGT GGCCAATGTT GACAATAACA ACGGATGGGA CTCCTGGAAT
 4551 TCCATCTGGG ATTATGGAAA TGTAGGTAGT CAACGTGCAA TTTTCACTTT
 4601 ATTGTTTAAA AATACGACTT CTTTTTAACA AAAAATGTGC ATGTTAACCA
 4651 TAAAGAAATT AAAAATAAAT TCTAATTACA CATAGCATAC AGTTATAAGT

FIG. 1 Cont.

4701 AAAGGTGACC ATTTTGCTCA TCCGATTTTG TTCCCTAGAG ATAACTACTG
 4751 TTAATAAGTG TTGCATGATC AGTTAAAATT CAAACCAACA AACACTATGT
 4801 TCAAGGGATT GTGGGTATAT ACAACAAATA TGAACATCCT TTTGCCTTGC
 4851 CTGCAGATAC CCTCAATAAT GCTGAAAGAC TTATACAACA TTA CTGCTTC
 4901 CAAAGCTTAG ACTATCTCAC TTTGTTTTCA AAGGAGGTTT TACGACCTTC
 4951 TAAAGAGATT GAAATTGACA TTTCACCTAA AACTCGGGAA ATGTAAATGA
 5001 CAATATTAAT TG GTAAGAGA GGAAAGAAGA AAGAAAGAAG GAAGGAAAGA
 5051 AAGAAAGAAG GAAGGAAGGA AAGAAAGAAA GAAAGAAAGA AAGAGAGAGA
 5101 AAGAAAGAAA AAGAAAAAAG AGAGAAAGAG AGAAGGAAAG AAAGAGAGAA
 5151 GGAAAGGAAA AGAGAAGCAA AGAAAGAGAG GAGCAAAGAA AGGAACACTT
 5201 AGCACTAGTT GGGAGACCCA ACTCTGGAAT TATCAGCTAT ATATTTAACA
 5251 AACGTTATAC TTTTAAATAG CAACTCTTT ATTGTTTCAA TTTTATCTGG
 5301 TCAATTGGAA AAATAATTTT TGTCTTATCT GTCTCCTTGA AATGTGAGGA
 5351 TCAAAGGAGA CTAAAACATG ATAGCTTTTA AAGTCTATTT CAGTAAACA
 5401 GACTTATATA GAGGGGTTTT TATCATGCTG GAACCTGGAA ATAAAGCAAA
 5451 CCAGTTAGAT GCTCAGTCTC TGCCCTCACA GAATTGCAGT CTGTCCCCAC
 5501 AAATGTCAGC AATAGATATG ATTGCCAAGC AGTGCCCAT CCAGTGCTCT
 5551 TATCCCAGCT CATCAGATC TTGGAGTTCC CATTCTCTC TGCAGGTGGA
 5601 ACTGACCTCT GATAAGAAAA GCTCCTCGGA GAACACATGC CTCACTATTT
 5651 GCCATCTACT TTAACAGGGC TTTGCTGCAA CCAGACTCTT TCAAAGAAG
 5701 ACATGCATTG TGCACAAAAT GAACAAGGAA GTCATGCCCT CCATTCAATC
 5751 CCTTGATGCA CTGGTCAAGG AAAAGAAGGT AAAAATAAAA GGCTTTTTAT
 5801 TTTTGGTGAG GGGAGAGGTT TTACATCCTT CAGTAAATAA CGAGAAGATC
 5851 ACAGTCATTC CCTCTTGACT ACAGTATGTT GTAGTGTGCA GCACAAAGGG

FIG. 1 Cont.

5901 GGAAGTTATT GGTGATTGCC TGAGGGAAGG CAACTTCTGC CACATCAAAT
 5951 GCTGTGGCTC ACACCTACCT CTACAACCGC TGAGCAAAGC ACTTGAAACC
 6001 TTGACTGTTA GAGGAGCAAA GCTCTGGTCA CACCAATAGG AGCCTCAGTA
 6051 CTTTGCCAAG GACATTTTTC TGCAAGAGTT AGTTAGGGTT ATTAGATTTA
 6101 GCAAATGAAA ATAGAAGATA TCCAGTTAGG TTTGAATTTT AGGTAAGCAG
 6151 CAGGTCTTTT TAGTATAATA TATCCTATGC AATATTTGGG ATATACTAAA
 6201 AAAAGATCCA TTGTTATCTG AAATTCAAAT GTAACGGGT ATTGTATATT
 6251 TTGTCTGGCC ATACTAATCC AGGTGAGTGG AAAGAAGAGA TCCATAATGT
 6301 TTTAAAATAT TTGCCTGAGT TCATATTCCT ATAACGATA AATGAGTACC
 6351 TTTCATTGAC AAGGTAGAGA AAATAAATAA ACTGCATTCT CAGAAGATGA
 6401 TTATTACATA GTCTAATCCA AGGAATCTAT GATGACCAAA TGAGGTCCAA
 6451 GTTGCAGAAT AAATTAAGCC TCAGACTTCT GTGTTTATGA GAAGCTGAGG
 6501 TTTCAAACCA GGTAAATCCC TTAGGACACT TAGAAATGCT AAGATATACA
 6551 GAATAAGCTA GAAATGGCTC TTCTTCATCT TGATTATGGA AAAATTTAGC
 6601 TGAGCAACAC TCACTGTTGG CCTCGTATAC CCCTCAAGTC AACAAACCAC
 6651 TGGGCTTGGC ATTCATTCTC TCCCATTCTT CCTTTCTACC TCTCTTTCC
 6701 ACACTCAGCT TCAGGGTAAG GGACCAGGAG GACCACCTCC CAAGGGCCTG
 6751 ATGTACTCAG TCAACCCAAA CAAAGTCGAT GACCTGAGCA AGTTCGGAAA
 6801 AAACATTGCA AACATGTGTC GTGGGATTC AACATACATG GCTGAGGAGA
 6851 TGCAAGGTGA GTAGCATCCC TACTGTGCAC CCAAGTTAG TGCTGGTGGG
 6901 ATTGTCAGAC TATCCTCGCG CGTGTCCATA GTGGGCACCA GTGATGCAGG
 6951 GATGGTCATC AAGGCCAACA TTTGTGCAGT GCTTGCTCTG TGCCAGGTAC
 7001 TGTTCTATGT GCTTTAAGTG TGTAACTCG GTTCTTCACA GCAATCTTAT
 7051 AGGTTCTATT TTAATCCTAC TTTATGGATG AGGAAACTGA GGTACAGAGA

FIG. 1 Cont.

7101 GGTCACAAAA TCCTGCCTG GGTCAATTCC AAGCATTTTG GCTGTGGATT
 7151 CTGTGCTCTT AAATATTATG GAACACTGCC TTTTAAGTGT GAATCAAGAG
 7201 TAGACTCAAG TCATATTCAA AAGAATGCAT GAATGGCTAA ATGAAAGAAG
 7251 AATGCTAATA GAATCTATTA ACTTTCTATA GCTCAGACAA TCACTTAATT
 7301 TCTGGACATT CAAAGAACAG CTGCACACAA ACAAAGTGC TACCTAGGGA
 7351 CCTAACTTAA TGGCAATTTT CCAGATCTCT GAATTGATTG ATTTATCAC
 7401 AACAAAGTAGA TAAACCTTGA CATTAGCACA TAGCTAGTTT GGAAACCCCT
 7451 ACTCCCCCAA TCCCCTCCAA GAAAAGAGTC CTAAATAGA CATTAATATA
 7501 GGCTTCTTCT TTTCTCTTA TTAGAGGCAA GCCTGTTTTT TTACTCAGGA
 7551 ACGTGCTACA CGACCAGTGT ACTATGGATT GTGGACATTT CCTTCTGTGG
 7601 AGACACGGTG GAGAACTAAA CAATTTTTTA AAGCCACTAT GGATTTAGTC
 7651 , ATCTGAATAT GCTGTGCAGA AAAAATATGG GCTCCAGTGG TTTTACCAT
 7701 GTCATTCTGA AATTTTCTC TACTAGTTAT GTTGATTTC TTTAAGTTT
 7751 AATAAAATCA TTTAGCATTG AATTCAGTGT ATACTCACAT TTCTTACAAT
 7801 TTCTTATGAC TTGGAATGCA CAGGATCAAA AATGCAATGT GGTGGTGGCA
 7851 AGTTGTTGAA GTGCATTAGA CTCAACTGCT AGCCTATATT CAAGACCTGT
 7901 CTCCTGTAAA GAACCCCTTC AGGTGCTTCA GACACCACTA ACCACAACCC
 7951 TGGGAATGGT TCCAATACTC TCCTACTCCT CTGTCCACTG CTAA (SEQ ID NO:11)

FIG. 1. Cont.

1 CATGCTTGCC TACTCCTCTG TCCACTGCTT TCGTGAAGAC AAGATGAAGT
 51 TCACAATTGT CTTTGCTGGA CTTCTTGGAG TCTTTCTAGC TCCTGCCCTA
 101 GCTAACTATA ATATCAACGT CAATGATGAC AACAACAATG CTGGAAGTGG
 151 GCAGCAGTCA GTGAGTGTC ACAAATGAACA CAATGTGGCC AATGTTGACA
 201 ATAACAACGG ATGGGACTCC TGGGAATTCCA TCTGGGATTA TGGAAATGGC
 251 TTTGCTGCAA CCAGACTCTT TCAAAAGAAG ACATGCATTG TGCACAAAAT
 301 GAACAAGGAA GTCATGCCCT CCATTCAATC CCTTGATGCA CTGGTCAAGG
 351 AAAAGAAGCT TCAGGGTAAG GGACCAGGAG GACCACCTCC CAAGGGCCTG
 401 ATGTACTCAG TCAACCCAAA CAAAGTCGAT GACCTGAGCA AGTTCGGAAA
 451 AAACATTGCA AACATGTGTC GTGGGATTCC AACATACATG GCTGAGGAGA
 501 TGCAAGAGGC AAGCCTGTTT TTTTACTCAG GAACGTGCTA CACGACCAGT
 551 GTACTATGGA TTGTGGACAT TTCCTTCTGT GGAGACACGG TGGAGAACTA
 601 AACAATTTTT TAAAGCCACT ATGGATTAG TCATCTGAAT ATGCTGTGCA
 651 GAAAAAATAT GGGCTCCAGT GGTTTTACC ATGTCATTCT GAAATTTTC
 701 TCTACTAGTT ATGTTTGATT TCTTTAAGTT TCAATAAAAT CATTTAGCAT
 751 TG (SEQ ID NO:12)

FIG. 2

1 MKFTIVEAGLLGVFLAPALANYNIDVNDNNAGSGQQSVSVNNEHNVAN 50
51 VDNNGWDSWNSIWGYGNGFAATRLFQKKTCIVHKMKKEVMPSIQSLDAL 100
101 VKEKKLQKGPGGPPPKGLMYSVNPNKVDDLSKFGKNIANMCRGIPTYMA 150
151 EEMQEASLFFYSGTCYTTSVLWIVDISFCGDTVEN 185 (SEQ ID: 13)

FIG. 3

1 GAATTCAAAC AGCAGGCCAT CTTCACCAG CACTATCCGA ATCTAGCCAT
 51 ACCAGCATTC TAGAAGAGAT GCAGGCAGTG AGCTAAGCAT CAGACCCCTG
 101 CAGCCCTGTA AGCTCCAGAC CATGGAGAAG AGGAAGGTTG TGGGTTCAAG
 151 GAGCTTTTCA GAGTGGAAAT CTGTGGATCA GTGATTATA AACACAGTT
 201 TCCCCCTTA TTAGATTGA ACCACCAGCT TCAGTTGTAG AAGAGAACAG
 251 GTTAAAAAAT AATAAGTGC AGTCAGTTCT CCTTCAAAC TATTTTAAAC
 301 GTTTACTTAT TTTGCCAAGT GACAGTCTCT GCTTCCTCTC CTAGGAGAAG
 351 TCTTCCCTTA TTTTAATATA ATATTTGAAA GTTTTCATTA TCTAGAGCAG
 401 TGGTTCTCAT CCTGTGGGCC ATGAGCCCTT TGGGGGGGTT GAACGACCCT
 451 TTCACAGGGG TCACATATCA GATATCCTGC ATCTTAGCTA TTTACATTAT
 501 GATTCATAAC AGTAGCAAAA TTAGTTAGGA AGTAGGAACA AAATAACGTT
 551 ATGGTTGTGG TCACCACTAT GTTAGAGGGT CCGCAGCATT CAGAGGGTTG
 601 AGAACTGTTG TTCTAGAGGC AAATAAGAAG ACAGAGTCC TTGATAGGGC
 651 CCAGAGGCAG TGAAAGAAGT TTCCACGTAG AAAGTGAAGA AGGTCTGGTG
 701 TCCGAAGCAG TGAGGAACTT AAAAAAGAA AACCAAAAC ATTGCCAACT
 751 AACAGTCCAG GAGAAGAGCG GGCATGAAA GGCTGAGTTT CCATGGGATG
 801 CCTTGAATGG AATCAGAGTG TGGGAAAATT GGTGTGGCTG GAAGGCAGGT
 851 GCCGGGCATC TCAGACGCTG GTAGCTGGGG AACAGGAAA CCCCTTTAGG
 901 ATCCCAAGAT GCCATTCCAA TGAGCTTGAG ATTTTCTCA TGGACTGCCA
 951 GTGAATGTTT CTACGCTCCG GAAATTAATG TTTACTTATT TTCCATATTC
 1001 TAGGGGAGAA CCCTGGGAAA AATGGAGGAC ATTCATTGAA ATATCTGAGT
 1051 CCTGGGATAA GGCAGGCTTG GTCCTACAAC TCTGGTAAAA GTCCATCAGG
 1101 AAGTGCCTTG ACCAAGGCTG GAGTGGAGAG CTGTTGGTGA GATGTAAGGG

FIG. 4

1151 CAAGGTTTAG TTGCTAGATA TGTAGATGGC AAGATGGTGC TGCCAACAGC
 1201 CCCAGAGCT CTAACCCACT GAGAAACCCA GGAATGAATG ATGGGAGATG
 1251 GCTTTGGTGC CAGCTGCTAG TGACATGGCT GGAAAGCTGC ACTGGCTTCG
 1301 AGGCCAGACA ATTCTCAAG GAAACATCTG GCCAGGGTGC AAGGGCCAGT
 1351 TTCCTTCCTT GGAGTTCCTT TCACAGCTAA GAACATCATC CCCCAACCAC
 1401 TGGTTTTGTT AAAAAGTTTT CAGTATGACT TGAGCATGGT CAAGAAGCAT
 1451 AGAGAGGGGG AAATAAGGGT GGAAGGAGCT GGAGAAAGCT TACAATAGGA
 1501 CTGGGTAAAG GGAAGGAGAA GAAACCATTC CCGCATTCCC ATAGGAGCCA
 1551 GTACCAGGAA GGGCAGGTGT ACACACAGAT CTCATCTAAG GCCATGTTTG
 1601 GTTTAGGGAT TACTCTTCTC CCGAATCTGA GCAGCAGCAA TACGTAAAT
 1651 ACCCACACCC ATGGCTTCCA TATTCCAGAA CTTATCACAA ACCGTGTAGA
 1701 GTTACTGAG ATACCTTCGT CAGAGGATGA GTCAGAGGCC TCCTGCCTAA
 1751 GGGCCCTACT GAGCAGGCAG CTAAAGGCTT CCGGGCCTCT GCAGCTCCAC
 1801 AGATACAGGA GAGGGAAGCA GATAAGCCGT GGAATCCACC TGAGCACACC
 1851 TAGCTTGAGC AAAGCTGGTC AGGTACAAAT AGCAGAGGGC TGAATGTCTG
 1901 TGAGCAGGCC GCCTGATCCT CTGCTCCACC AACTCCTGC CGCCATGAAG
 1951 CTCACAGTAA GTCAGATCTT CTTTTCAATG CAGCACCATA CAACATTAAT
 2001 AGTCAGGGGT GAGGGGTCT GACTCTTACG GCACTGTTAC CATAGTGGAA
 2051 ATATTCTCCT TTCTTTTCAT GGAATCATGG TGTTTACAAG CATGTCCATA
 2101 GAGAAGAAGA ATTGCCCCGG AAGAGCCTGT CACAGGCTGA ATACTGTAGA
 2151 ATTGTCTTTC ACACCATCTG TTCCAAGGTT CTAATTAAGA CGAGCAGTCT
 2201 CTGGGCTCCA GAAAGAGTCT TTCTTAGCCT TGATCTCTTT CTTATTTCTG
 2251 ATTTCTCCTT TCTTATCCAT GATTTCCTACT TTTACCAGTT CTGGGCATGT

FIG. 4 Cont.

2301 TCCGGTCAGA CTGGAAGATC ACTGTTGTCA AAAC TAGTCT TCAACACTCT
 2351 TGGCTGTTAA CATGAAAACA ACGGTCCTTG GGCCTGTGC AAGCATTTC
 2401 TGGAGAAAGT CTCTGGGGAT GAAGCTATCT CAGTTTCCCC ACTGAAGTCC
 2451 TAGGATACAG AGGCTCAAAC AGAGTGCACA TATTCAATTT CAGCATACTC
 2501 TATTGGCGCT GCTTTATGAA TCATATGAAT TTATGGAATT GGAAATGTAA
 2551 ACTATGACCA AGAAGCGTCC ACCTCAGAAC AGGTTGGGTG GGGAACCTCA
 2601 AGCACAGGCC AGAGGGCTGC GTTCTCTTC TAGTTCTGTC TAGAGGAGTG
 2651 GTTCTCGACC TTCCTAATGC TGTGACCCTT TAATACAGTT CCTCACGTG
 2701 TCGTGACTCC CAGCCATAAA ATTACTTTCA TTGCTACTGC ATAACGTAA
 2751 TTTTGCTACC ATTATGAGTT GTAATGTAA TATCTGATAT GCAAGATACC
 2801 AGATAACCTA AGAAACGGTT GTTTGACCTT TAAAGGGGTC ACAACCCACA
 2851 GGTGGAGAAC TACTGGTCTA GGGTCCTTTA CAGTCCTTTA GCTGCCTCAT
 2901 TTACAGGAGA TAACATCATG CTCAAAACT CCCTCCACAT TTGGCTTTTT
 2951 GGGTTGTTTT GTTTGTTTT TCAAGACAGG GTTCTCTGT GTAGCCCTGG
 3001 CTGTCCTGGA ACTCACCTTT GTAGACCAGG CTGGCCTCGA ACTCAGAAAT
 3051 CCGCCTGCTT CTGCCTCCTG AGCGCTGGGA TTAAAGGCGT GCGCCACCAT
 3101 GTCTGGCTCA CATCTGGCTT TTTAAGAGAC CGATTTTAAC TTCTTGCAAT
 3151 GAAAATAAAT ATAGTAGAAA TGCTTAACCT ACTAAGACAA TAAAAACAGG
 3201 ATTCCTTCTG CTAGGAAGAA CACGTTCCAG ACTAAGGAAA AAAACCTTTT
 3251 CAGGGCTTTC ATTACACTGT GCCATGCACT AATTTTATGT TTTCTTCATC
 3301 AGTTTTCACT GTCTGAAATT CAGTGTCAAA ATTCTAAGAC TACATATGAA

FIG. 4 Cont.

3351 TATCATTACA GTAACCTCAGC AATTCCTATGT TACCAGTAAG TTTTCTGTA
 3401 GTTTAAAAAA AAGGTGGAAG AAGAAAGCAC AGATAGTTTA GCACATGGGT
 3451 AAAATCAGTA ACTATTTCTG ATGAGCTTGG TGAAGATGCT GTAAACCATG
 3501 CGACCACCAG TCCTGTTCTC TGTGCTTTCA GATGTTCTGTC GTGGGTCTGC
 3551 TTGGCCTCCT TGCAGCTCCT GGTTTGTCTT ACGTAAGTCT CATTTTCTG
 3601 AAGTTCATTG TCAAACTGC ATTTACAGTG AAATGTGATC TTAAGTCACC
 3651 CTCTGCTTCT TATGAACATT AGACGGTCAA CATCAATGGT AATGATGGCA
 3701 ATGTAGACGG AAGTGGACAG CATTGCGTGA GCATCAATGG TGTGCACAAC
 3751 GTGGCCAATA TCGACAACAA TAACGGCTGG GACTCCTGGA ATAGCCTCTG
 3801 GGACTATGAA AACGTATGTA ATGGACACAC AGGGTAAAGA TATGGTGTAG
 3851 CCACCACCCA TTAATTTTC TGAGGTGAAT TCTAGCTGTT CATGAACATT
 3901 AAAAGCTACC AGTAAAAGTG CCCATTCCAC TCAAAACAAT TTTACTTTT
 3951 TGCATATAAT TATTGCTAAT AAGTATTACA CAATAGGTCG AAATTCAAAG
 4001 GGATCAATAG TAAGGATAAA AACTATGTAC AAAGACAAAC ACAGCATCCT
 4051 TTGGTCTTCC CTGCAGAGAG TCTCCATGAT GTTAAAGGTC CAATGTTTAA
 4101 TGGAGGCTGA ATGAAATACG AATGCCTCTG TGATGGAAAA GGCCCAACAT
 4151 CTTATGGAGA ATGAGTGAAG TATGAATGCT ATTAGTTGTA AGAGAAGGCG
 4201 ATGCAAAGCA ACACTTGGCA CCACCTGCCA ATTACTACTT TCCTATTTAA
 4251 ATGTAGTTTA AAAAGCAAAG CCTGTCTTCC CTGCCTCCTG GAAACACTGC
 4301 GGATGGAGGT AGACCAAGGT ATGACAGCCT TTAAGGTTT GTCAGCAAA
 4351 CACTCCCCCA TACACACATA CACACACCCT CCTACTACAC TGGAAGTAA

FIG. 4 Cont.

4401 GCAAAGGCAG TGGGTTAGAT ATATCCACCC TCTAAGAGTT TGCAGGTCAT
 4451 CTATATATGA TAGCCAGAGA CACAACGCA GGACAGCCAG ACTCTGAGCA
 4501 CTCTCCCCAG CTCCTTGTA CTCTGTTTCA GTGGTGACTT GTGACAAGAA
 4551 TCCTGGGGAA CCTGTGCCTC ACTGTTCTCT GTCTTCTTTA ATAGAGTTTC
 4601 GCTGCCACGA GACTCTTCTC CAAGAAGTCA TGCATTGTGC ACAGAATGAA
 4651 CAAGGATGCC ATGCCCTCCC TTCAGGACCT CGATACAATG GTCAAGGAAC
 4701 AGAAGGTAAA GTCCTGCCTT CTTCTTTGGA GTGACAGGAA GTCTTACAGT
 4751 CTCCAGTACA CAGTGAAGTC ACCCCCATTC CCTCTTTGGT GGAGCATGAC
 4801 AGCATGTTTG TCATGATAAA TGCCACAAAC ATGTAAACT GTTCAGTGTC
 4851 TGCCTGAATG GAGGGTGGCT TCCACTGTGT CAGATGCCGT GGCCACATC
 4901 TGCCTCTGCA GGGTCCAGTA AAGCACTGGC TATCTTGAGT GTCAGAGACC
 4951 CAAAGGTCTG TACACTTCAG TACAAGCCCT CCATATTTCA AGGGCACACT
 5001 CCTACAGTCG TTGGGGTTAT CAGAACTAGC AAACATAGAG ACTGGATTTT
 5051 CAGATGAAAA GAAATCCTTT TTAAAGTCTA AGTATGCCTT ATACAATGTT
 5101 TGAGATATTC TCAATACTAA AAAAAAAAAA ATTGTTGCTT GCTTGAAAAAT
 5151 CAAATGTAAC CAAGTGCCT ATATCCAGTG TCAATCATGG CTGTAGTAGA
 5201 TGGGAAGAGG GAGCCCGTGG TTTTCACAGT CAGACGCCTG AGTTATTCTT
 5251 CTAAGTGATA AATTGGTTCC TATAACAAGC AAGCCAGTGA ATATAAATAA
 5301 GCTCTATCTC AGAAGTTATC CTGTAGTGCT ACCCTAGAAT CTAAGAGAGC
 5351 AAAAGTGCTT CAAATTTTCA AATAAGTTT GCTTTGGACT TCTGTTTTTC
 5401 TAAACAATA TAACTTCAAA CCATCTAAGC CTCGTGGGAC ACTTAGAAAT
 5451 ACCAAGCCAT TCAAAGCTAG AATTGTTTCT TCACCTTACT TGAAAACAAA

FIG. 4 Cont.

5501 ATGACAACCA AAAATTGTCC CCACTGCCCT TGTACATCTT CAGATCAGTA
 5551 AAGTCCTGGG CTCAGGGATC ATTCACTTTC TTTCTTTCCT TTCACACTCA
 5601 ACTTCAGGGT AAAGGGCCTG GAGGAGCTCC TCCAAGGAC TTGATGTACT
 5651 CCGTCAACCC TACCAGAGTG GAGGACCTGA ATACATTCGG ACCAAAGATT
 5701 GCTGGCATGT GCAGGGGCAT CCCTACCTAT GTGGCCGAGG AGATTCCAGG
 5751 TGTGTACCCT GAGATGCTGT ATATCCCAAT GCAGTACTGA GAGAGCCATC
 5801 AGACACTCTA AAGTGTGACC ACAGACGGAC CAATCATGTG GATTATCAGA
 5851 GCAAACACTT GCTTGCTCCT TGTGAGACAG TTGTCCATGC TTCAAAAGTT
 5901 CATTAAAAAA AATAGTTCAC AGGCTCCTCA CAGAAACCTT AGTAGAATCC
 5951 ACAGCTTCTG CTCTTAGTCT TACTTTTTAG AAAGTGAGAC CCAGAGAAAG
 6001 GTCACAAAAC TTTTGTCTGG CTCAGGTTCT ATGTCTTTAA CTTTATAGAA
 6051 TACCGTCTTT CTGGGTGGGT GGGCTCTAGA GTAAACTTCA AGTGAGTTCA
 6101 AGGAAAGCAT GAGAAGTAGG GAAGACCAAA TGAAAGGAGA ATGCCAATGA
 6151 AATCTATCGA TTCTATAGCG CCAATGCTTA ACTCCTAGGC GTTCAAAGAA
 6201 TAGTATCCAC AAGGTGTCAG CCTAAGATCC TAATCTAACA GCAAGTTTTC
 6251 AGATCTCTGA AGTGAAAAGA GAAAGCAAGA GAGGAACAGA GACAGAAACA
 6301 GTAAGAGACA GAGAGGCAGA GACAAAGAGA CAGGGAGAAT AGAGAGGGAT
 6351 TAAAATTAAT ATATAGTTTA GAAATTACGA CTCCTCACAG TCCCTGCAGA
 6401 GTCCTAGGAT AGGCACTGAT TTGGACTTCT TTTCTTCTCA CTAGGACCAA
 6451 ACCAGCCTTT GTAAGCAAAG AAGTGCTACA CAGCTGACAT ACTCTGGATT
 6501 CTGCGGATGT CCTTCTGTGG AACATCAGTG GAGACATACT AGAAGTCACA
 6551 GGAAACAAC CCGTGGGCTC TGACCATCGC AATGCTTGAT TATGAGAGTG

FIG. 4 Cont.

6601 TTCTCTGGGG GTTGTGATTA GCTTCTTTAA GGCTCAATAA ACCCACGTGG
6651 CAGCACATCC AGTTTGTAAT GACATGCCTC ATGACTTCTA TGGGAGTCCA
6701 ATGTGGCACC TGCCAGCCTG TATTCAGGAC CTCTCCGCTA TAAAGCATCC
6751 CTCCAGAGTT TTCAAATACT ACAAAGCACA GCCTGGGTTT GGGCTCAGAT
6801 AGGCCACTGC TGCCTGACTA CATTACAGAC AAACAAGTTT TAAAGAAAAG
6851 AAAAAAGAGC TCAGAGTGGC TGAATCAGC AAGGGTGTTT TTCCTGCAAG
6901 GAGCCAGAAG TATCAATAAT CACCCAAGGA GGAGACACTG GGAATGAGAG
6951 ACTAGAACAC ACGCCTGCAG ATACGGAGAA CCTCAGCATT GCCGCTCTCT
7001 CCCATAACTG CACACCCCCT TCTGTAAACT CTGCTTCTTT CTTTCACCTG
7051 AAGATGGCCC TTGCTTTTTT TTATTATAGG ACANGATAAC TAGACCAGAA
7101 AGTCAACCTG ACTCTCTACA TTTATATGTC TTCCCAGNTC AAGAAATATT
7151 ATTTACTGGT GAATGGCACT TCTATATTCC CTTGGTTCAA TAAGTCTACA
7201 GGATCCATTC ATTGACAGGC CAAGAGTGAG ATCACATGAT ACCCAAGCAC
7251 ATGGGTCTTT CCTTGAAGGA GAAGGATCCA (SEQ ID NO:14)

FIG. 4 Cont.

1 ATGTTTCGTCGTGGGTCTGCTTGGCCTCCTTGCAGCTCCTGGTTTTGCTTACACGGTCAAC
61 ATCAATGGTAATGATGGCAATGTAGACGGAAGTGGACAGCATTCGGTGAGCATCAATGGT
121 GTGCACAACGTGGCCAATATCGACAACAATAACGGCTGGGACTCCTGGAATAGCCTCTGG
181 GACTATGAAAACAGTTTCGCTGCCACGAGACTCTTCTCCAAGAAGTCATGCATTGTGCAC
241 AGAATGAACAAGGATGCCATGCCCTCCCTTCAGGACCTCGATAACAATGGTCAAGGAACAG
301 AAGGGTAAAGGGCCTGGAGGAGCTCCTCCCAAGGACTTGATGTACTCCGTCAACCCTACC
361 AGAGTGGAGGACCTGAATACATTCCGACCAAAGATTGCTGGCATGTGCAGGGGCATCCCT
441 ACCTATGTGGCCGAGGAGATTCCAGGACCAAACCAGCCTTTGTACTCAAAGAAGTGCTAC
501 ACAGCTGACATACTCTGGATTCTGCGGATGTCCTTTTGTGGAACATCAGTGGAGACATAC
561 TAG (SEQ ID NO:15)

FIG. 5

1 MKLTMFVVGL LGLLAAPGFA YTVNINGNDG NVDGSGQQSV SINGVHNVAN
51 IDNNNGWDSW NSLWDYENSE AATRLFSKKS CIVHRMNKDA MPSLQDLDTM
101 VKEQKGKGGPG GAPPKDLMYS VNPTRVEDLN TFGPKIAGMC RGIPTYVAEE
151 IPGPNQPLYS KKCYTADILW ILRMSFCGTS VETY (SEQ ID NO:16)

FIG. 6

1 atgcctgact tctcacttca ttgcattggt gaagccaaga tgaagttcac
51 aattgccttt gctggaacttc ttggtgtctt cctgactcct gcccttgctg
101 actatagtat cagtgtcaac gacgacggca acagtgggtg aagtgggcag
151 cagtcagtga gtgtcaacaa tgaacacaac gtggccaacg ttgacaataa
201 caatggatgg aactcctgga atgcctctg ggactataga actggctttg
251 ctgtaaccag actcttcgag aagaagtcac gcattgtgca caaatgaag
301 aaggaagcca tgccctcct tcaagccctt gatgcgctgg tcaaggaaaa
351 gaagcttcag ggtaagggcc cagggggacc acctcccaag agcctgaggt
401 actcagtcac ccccaacaga gtcgacaacc tggacaagtt tggaaaatcc
451 atcgttgcca tgtgcaaggg gattccaaca tacatggctg aagagattca
501 aggagcaaac ctgatttcgt actcagaaaa gtgcatcagt gccaatatac
551 tctggattct taacatttcc ttctgtggag gaatagcgga gaactaa (SEQ ID NO:17)

FIG. 7

1 MKFTIAFAGL LGVFLTPALA DYSISVNDDG NSGGSGQQSV SVNNEHNVAN
51 VDNNGWNSW NALWDYRTGF AVTRLFEKKS CIVHKMKKEA MPSLQALDAL
101 VKEKKLQKG PGGPPPKSLR YSVNPNRVDN LDKFGKSIVA MCKGIPTYMA
151 EEIQGANLIS YSEKCISANI LWILNISFCG GIAEN (SEQ ID NO:18)

Human	1	MKFTIVFAGLLGVFLAPALANYNIDVNDNNNAGSGQQSVSVNNEHNVAN	50	1
Pig	1	MKFTIAFAGLLGVFLTPALADYSISVNDDGNSGGSGQQSVSVNNEHNVAN	50	
	51	VDNNNGWDSWNSIWGYGNGFAATRLFQKKTCTIVHKMKKEVMPSIQSLDAL	100	
	51	VDNNNGWNSWNALWSYRTGFAVTRLFRKKSCIVHKMKKEAMPSLQALDAL	100	
	101	VKEKKLQKGKPGGPPPKGLMYSVNPKNVDDLSKFGKNIANMCRGIPTYMA	150	
	101	VKEKKLQKGKPGGPPPKSLRYSVNPNRVDNLDFGKSIVAMCKGIPTYMA	150	
	151	EEMQEASLFFYSGTCYTTSVLWIVDISFCGDTVEN	185	(SEQ ID NO:13)
	151	EEIQGANLISYSEKCISANILWILNISFCGGIAEN	185	(SEQ ID NO:18)

	1	150
Human	MKFTIVF.AG LLGVFLAPAL ANYNIDVN.D DNNNAGSGQQ SVSVNNEHNV	
Pig	MKFTIAF.AG LLGVFLTPAL ADYSISVN.D DGNSGGSGQQ SVSVNNEHNV	
Mouse	MKLTM.FVVG LLGLLAAPGF A.YTVNINGN DGNVDGSGQQ SVSINGVHNV	
	51	100
Human	ANVDNNNGWD SWNSIWIDYGN GFAATRLFQK KTCIVHKMNK EVMPSIQSLD	
Pig	ANVDNNNGWN SWNALWDYRT GFAVTRLFEK KSCIVHKMKK EAMPSLQALD	
Mouse	ANIDNNNGWD SWNSLWDYEN SFAATRLFSK KSCIVHRMNK DAMPSLQDL	
	101	150
Human	ALVKEKKLQG KGPGGPPPKG LMYSVNPKNV DDLSKFGKNI ANMCRGIPTY	
Pig	ALVKEKKLQG KGPGGPPPKS LRYSVNPNRV DNLDKFGKSI VAMCKGIPTY	
Mouse	TMVKEQK..G KGPGGAPPKD LMYSVNPTRV EDLNTFGPKI AGMCRGIPTY	
	151	188
Human	MAEEMQEASL FFYSGTCYTT SVLWIVDISF CGDTVEN (SEQ ID NO:13)	
Pig	MAEEIQGANL ISYSEKCISA NILWILNISF CGGIAEN (SEQ ID NO:18)	
Mouse	VAEEIPGPNQ PLYSKKCYTA DILWILRMSF CGTSVETY (SEQ ID NO:16)	

FIG. 10

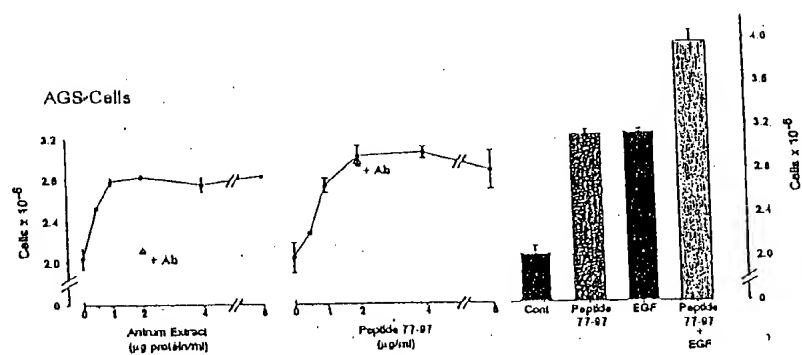


FIG. 111

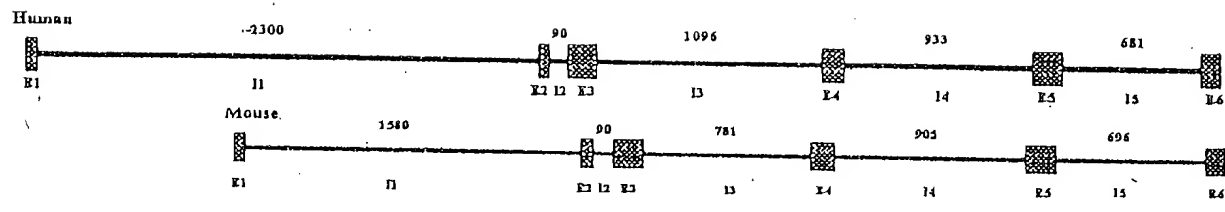


FIG. 122